WATER FEATURES

General

This table gives estimates of several important water features, which are used in land use planning that involves engineering considerations. Water features which are covered include hydrologic soil groups, flooding and ponding frequency and duration, and seasonal high water table.

Tables of soil water features can be found in the published soil survey, Customer Service Toolkit, and NASIS.

Hydrologic Soil Groups

The hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and
when not frozen. The soils in the United States are placed into four groups, A, B, C, and D, and three dual classes, A/D, B/D, and C/D.

The definitions of the hydrologic soil groups are found in Section II, in the cropland interpretations section.

Flooding

The temporary covering of the soil surface by flowing water is caused by overflowing streams, by runoff from adjacent slopes, or by inflow from high tides. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in marshes and swamps or in a closed depression is considered ponding. Frequency, duration, and probable dates of occurrence are estimated.

Frequency generally is expressed as none, rare, occasional, or frequent. None means that flooding is not probable. Rare means that flooding occurs in unusual climatic and precipitation conditions (there is less than a 5 percent chance of flooding in any year). Occasional means that flooding occurs infrequently under normal weather conditions (there is a 5 to 50 percent chance of flooding in any year). Frequent means that flooding occurs often under normal weather conditions (there is a 50 percent or greater chance of flooding in any year). The term “Common” is sometimes used to group frequent and occasional flooding into one class.

Duration is expressed as very brief (less than 2 days), brief (2 to 7 days), long (7 to 30 days), and very long (more than 30 days). Probable dates of occurrence that floods are most likely to occur are expressed in months.

About two-thirds to three-fourths of all flooding occurs during the stated period in the tables.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High Water Table (Seasonal)

Water table refers to a saturated zone in the soil. The Water Features table indicates, by month, depth to the top (upper limit) and base (lower limit) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on physical evidence of a saturated zone in the soil. A saturated zone that lasts for less than a month is not considered in these tables..

Ponding is standing water. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The Water Features table indicates surface water depth and the duration and frequency of ponding. Duration is expressed as very brief if less than 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. None means that ponding is not probable; rare that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); occasional that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and frequent that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).